Name   : KUKARKIN, B. V.

Title   : Doctor of Physical and Mathematical Sciences.

Remarks   : B. V. KUKARKIN is the author of an article entitled Looking out into Outer Space".

Source   : M: Stantsii v Kosmose (Stations in Outer Space), a collection of articles, published by the USSR Academy of Sciences, Moskva, 1960, with foreword by Academicians A. N. Nesmeyanov and A.V. Topchiyev, p. 183.

104 10

RYBNIKOV, K.A., prof., red.; SPASSKIY, B.I., dotsent, red.; GORDEYEV, D.I., prof., red.; IVANENKO, D.D., prof., red.; KUDRYAVTSEV, P.S., prof., red.; KUKARKIN, B.V., prof., red.; KULIKOVSKIY, P.G., dotsent, red.; MIKHAYLOV, G.K., starshiy nauchnyy sotrudnik, red.; KHRGIAN, A.Kh., prof., red.; SHEVTSOV, N.S., prof., red.; VERKHUNOV, V.M., assistent, red.; KONONKOV, A.F., red.; MALIKOVA, M.A., red.; SOROKINA, L.A., red.; YERMAKOV, M.S., tekhn.red.

[Summaries of papers and reports of the Interuniversity Conference on the History of Physics and Mathematics] Tezisy dokladov i soobshchenii Mezhvuzovskoi konferentsii po istorii fiziko-matematicheskikh nauk. Moskva, Izd-vo Mosk.univ., 1960. 187 p.   (MIRA 13:6)

1. Mezhvuzovskaya konferentsiya po istorii fiziko-matematicheskikh nauk, 1960.

(Mathematics--Congresses)   (Physics--Congresses)

KUKARKIN, B.V.; YEFREMOV, Yu.I.; KHOLOPOV, P.N.

[The first supplement to the second edition of the general catalog of variable stars containing information on 796 variables indicated in 1960 and specified information on 1,647 previously indicated variables] Pervoe dopolnenie ko vtoromu izdaniiu obshchego kataloga peremennykh zvezd, soderzhashchee svedeniia o 796 peremennykh zvezdakh, oboznachennykh v 1960 g., a takzhe utochnennye svedeniia o 1647 ranee oboznachennykh peremennykh zvezdakh. Moskva. Gos.astronomicheskii institut im. P.K.Shternberga Mosk.gos.univ.im.M.V.Lomonosova, 1960. 226 p.

(Stars, Variable--Catalogs)　　　　(MIRA 14:3)

PHASE I BOOK EXPLOITATION   SOV/3946

Mikhaylov, A. L., ed.

Stantsii v kosmose; sbornik statey (Space Stations; Collection of Articles) Moscow, Izd-vo AN SSSR, 1960. 343 p. 25,000 copies printed. (Series: Akademiya nauk SSSR. Nauchno-Populyarnaya Seriya).

Resp. Ed.: A. A. Mikhaylov; Compiler: V. V. Fedorov; Ed. of Publishing House: Ye. N. Kiyaus; Tech. Ed.: I. D. Novichkova.

PURPOSE: This book is intended both for the space specialist and the average reader interested in space problems.

COVERAGE: The book contains 73 short articles by various Soviet authors on problems connected with space travel and the launching of artificial earth satellites and space rockets. Some possibilities of future developments are also discussed. The articles were published in the period of 1957-1960. No personalities are mentioned. There are no references.

KuKARKIN, B.V.

FOR I FOR INFORMATION

Astronomiya v SSSR za sorok let 1917 - 1957; sborik statey (Forty Years of Astronomy in the USSR, 1917-1957; Collection of Articles) Moscow, Fizmatgiz, 1960. 728 p. 2,000 copies printed.

Ed.: I. V. Bazaranskoy; Tech. Ed.: N. A. Rozartina; Editorial Board: A. A. Mikhaylov (Resp. Ed.), M. S. Eigenson, P. G. Kulikovskiy, A. G. Masevich, S. N. Blazhko, V. V. Sobolev, and N. F. Subotin.

PURPOSE: This book is intended for astronomers, astrophysicists, and others interested in the history of astronomy in the USSR.

COVERAGE: This major work on the history of astronomy in the USSR consists of two parts. Part I contains review articles and bibliographic. Part I contains a collection of articles on various facets of astronomical research written by leading Soviet specialists in the field. Chief emphasis is placed on development of the last ten years. The research activities and equipment of 23 Soviet observatories are described, and the leading scientific personalities of each mentioned. The geographic coordinates and elevation of 31 astronomical centers are listed. Individual articles discuss problems dealing with...

Pavlov, D. N.: Time Service	57
Gorikov, Yu.P. Latitude Service	59
Mikhelin, N. F. Theoretical Astronomy	113
Barabashev, N. P. Physical Conditions on the Moon and Planets	135
Cherk, G. V. (Deceased), and S. K. Vsekkov, Comets	157
Kulikovskiy, V. V. Meteors	165
Miedow, Mu. L. Meteorites	175
Vorontsov, V. P. The Sun	187
Ferov, P. P. (Nonvariable Stellar Astro...)	207
Kukarkin, B. V. Variable Stars	261
Martynov, D. G. Brilliant Variable Stars	265
Vorontsov-Velyaminov...	
...mical Stars	Problem of Stellar Astronomy	269
Mikhelov, N. V. Gaseous and Galactic Nebulae (Theoretical Part)	277
Severny, A. B. Solar Prominences and Eruptions	
Vorontsov-Velyaminov ... Gaseous Nebulae and Metagalactics	323
...khin, V. G. Radio Astronomy	329
Litvinenko, V. A. Cosmogony	55
...nin...	
Bibliography of Astronomical Works written in the USSR During 1917-1957 Period. Compiled Under the direction of B. A. Lavrov	571
Alphabetical Index of Authors in the Bibliography	711
Author Index to the Collection of Articles	723

PART II. BIBLIOGRAPHY

Foreword

List of Abbreviations Used for Publications Titles

List of Serial Publications

Writings of a General Character Popular literature

Card 5/6

Kukarkin, B.V.

KUKARKIN, B.V.

Pavel Petrovich Parenago; obituary. Per.zvezdy 13 no.1:3-5 Ap '60.

(MIRA 14:3)

(Parenago, Pavel Petrovich, 1906-1960)

KURKARKIN, B.V.

An unusual variable star KZP 5066 = 377.1943 Sge. Astron.tsir.
no.21-23 Mr '60.
(MIRA 13:9)

1. Gosudarstvennyy astronomicheskiy institut im. P.K.Shternberga,
Moskva.

(Stars, Variable)

S/035/60/000/011/005/010
A001/A001

Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1960, No. 11,
p. 28, # 11107

AUTHOR: Kukarkin, B. V.

TITLE: Remarkable Variable Star KZP 5066 = 377. 1943 Sge

PERIODICAL: Astron. tsirkulyar, 1960, 30 marta, No. 209, pp. 21-23

TEXT: Richter (RZhAstr, 1960, No. 10, # 9983) noticed that the variable
star KZP 5066 slowly and continuously, apart from small irregular fluctuations,
varied its luminosity from 12^m to 10^m during the time from 1928 to 1959. The
variable was estimated from 51 plates of the Moscow Observatory during the time
interval from 1898 to 1959. The luminosity curve is graphically presented.
During 60 years, the luminosity of the variable was systematically increasing from
$13^m.42$ to $10^m.60$.

N.P.K.

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

KUKARKIN, B.V.

BE Monocerotis. Astron.tsir. no.211:29 My '60.   (MIRA 13:10)

1. Gosudarstvennyy astronomicheskiy institut im. Shternberga, Moskva.
(Stars,Variable)

KUKARKIN, B.V.

Preliminary results of the investigation of variable stars in globular cluster NGC 6171. Astron.tsir. no.216:17-18 D '60.

(MIRA 14:4)

1. Moskva, Gosudarstvennyy astronomicheskiy institut im. P.K. Shternberga.

(Stars, Variable)

KUKARKIN, B.V.

Identification of two variable stars in the globular cluster
M2. Astron.tsir. no.216:29 D '60. Astron.tsir. no.216:29 D '60.
(MIRA 14:4)

1. Moskva, Gosudarstvennyy astronomicheskiy institut im. P.K.
Shternberga.

(Stars, Variable)

KUKARKIN, B.V.

Some methodological problems in the history of astronomy.
Ist.-astron.issl. no.7:131-146 '61. (MIRA 14:9)
(Astronomy—History)

KUKARKIN, B.V.; KUKARKINA, N.P.

Investigating variable stars in the globular cluster M3-NGC 5272.
Per.zvezdy 13 no.4:239-247 Mr '61.   (MIRA 15:3)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K.Shternberga
i Astronomicheskiy Sovet AN SSSR, Moskva.
                    (Stars, Variable)

KUKARKINA, N.P.; KUKARKIN, B.V.

Variable stars with a Blazhko effect in the globular cluster M3.
Per.zvezdy 13 no.5:309-316 Je '61.   (MIRA 15:8)

1. Astronomicheskiy sovet AN SSSR, Moskva.
                    (Stars, Variable)

KUKARKIN, B.V.

Study of variable stars in the globular cluster NGC 6171. Per.
zvezdy 13 no.6:384-399 '61.   (MIRA 16:9)

1. Gosudarstvennyy astronomicheskiy institut imeni Shternberga.
Moskva.
                              (Stars, Variable)

VOROB'YEVA, V.A.; KUKARKIN, B.V.

YZ Cancri is a U Geminorum-type variable with the shortest period.
Per.zvezdy 13 no.6:428-429 '61.   (MIRA 16:9)

1. Gosudarstvennyy astronomicheskiy institut imeni Shternberga i
Odesskaya astronomicheskaya observatori.
                    (Stars, Variable)

KUKARKIN, B.V., prof.

New stage in astronomy. Priroda 50 no.5:14 My '61. (MIRA 14:5)
(Astronomy)   (Astronautics)

KUKARKIN, B.V., prof.

Lomonosov and astronomy. Priroda 50 no.11:38-43 N '61.
(MIRA 14:10)
(Lomonosov, Mikhail Vasil'evich, 1711-1765) (Astronomy)

VORONTSOV-VIL'YAMINOV, Boris Alaksandrovich; KRASNOGORSKAYA, Alisa
Arkad'yevna; Prinimali uch$stiye: TSITSIN, F.A.; PONOMAREVA,
G.A.; MAKAROV, A.N.; KUKARKIN, B.V., prof., otv.red.;
YERMAKOV, M.S., tekhn.red.

[Morphological catalog of galaxies. Part 1. Catalog of 7,200
galaxies with declinations from 90 to 45] Morfologicheskii
katalog galaktik. Chast' 1. Katalog 7200 galaktik ot
90 do 45 skloneniia. Moskva, Izd-vo Mosk.univv., 1962.
205 p. (Moscow. Universitet. Gosudarstvennyi astronomicheskii
institut. Trudy, vol.32).   (MIRA 16:2)
(Galaxies—Catalogs)

PEREL', Yuriy Grigor'yevich; KUKARKIN, B.V., prof., red.; YERPYLEV,
N.P., red.; KRYUCHKOVA, V.N., tekhn. red.

[Development of our concepts about the universe]Razvitie pred-
stavlenii o vselennoi. Izd.2. Pod red. B.V.Kukarkina. Moskva,
Fizmatgiz, 1962. 391 p.   (MIRA 15:10)
                        (Cosmogony)

S/35/62/000/010/001/128
A001/A101

AUTHOR: Kukarkin, B. V.

TITLE: Some methodological problems of modern astronomy

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 10, 1962, 3,
            abstract 10A1 ("Vopr. filosofii", 1962, no. 2, 37 - 45, 183,
            English summary)

TEXT: Investigations of outer space objects make it possible to study the
motion of matter under extraordinary conditions and extend the possibilities of
experimental physics on Earth. Penetration of human beings into outer space en-
ables them to conduct experiments in astronomical investigations, which inaugurate
a new era in the history of astronomy. The whole series of discoveries made during
the past time in the regions of physics and astronomy make it possible to pass
over from speculative cosmogonic hypotheses to cosmogonic theories founded on
firmly established facts, which disprove agnostic conclusions of some scientists.
At the end, the author dwells on problems of ideological struggle in the field
of cosmology.
[Abstracter's note: Complete translation]   I. Novikov
Card 1/1

S/026/62/000/010/001/003
D051/D114

AUTHOR: Kukarkin, B.V., Professor

TITLE: The cosmos and astronomy

PERIODICAL: Priroda, no. 10, 1962, 3-7

TEXT: In this popular article the author explains and justifies the
efforts and the material means spent in cosmic research. Contradicting
western "anthropocentric" views, he points out the recent achievements in
science, and possible future progress by the use of artificial satellites,
rockets, oto., and future material advantages expected for the benefit of
mankind. A summarizing description of the most important links established
by cosmic research between astronomy on the one side, and physics, geophysics
and biology on the other, is given. There is 1 figure.

ASSOCIATION: Gosudarstvennyy astronomicheskiy institut im. P.K. Shternberga
               (State Astronomical Institute im. P.K. Shternberg), Moscow

Card 1/1

KUKARKIN, B.V.

Two new variable stars in the vicinity of the globular cluster
NGC 6171. Per.zvezdy 14 no.1:21-23   Ja   '62.   (MIRA 17:3)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K.Shtern-
berga, Moskva.

VORONTSOV-VEL'YAMINOV, Boris Aleksandrovich; ARKHIPOVA, Vera Petrovna;
   KUKARKIN, B.V., prof., otv.red.; DOKUCHAYEVA, O.D., red.

   [Morphological catalog of galaxies. Pt 3. Catalog of 6740 galaxies
   from + 15° to - 9° of declination]. Morfologicheskii katalog galak-
   tik. Pt. 3. Katalog 6740 galaktik ot + 15° do - 9° skloneniia.
   [Moskva] Izd-vo Mosk. univ. 1963. 260 p. (Moskva. Universitet.
   Gosudarstvennyi astronomicheskii institut. Trudy, no.33).

                                                        (MIRA 17:4)

KUKARKIN, B.V., prof.

Symposium on "The galaxy and the Magellanic Clouds". Vest. AN
SSSR 33 no.7:98 Jl '63.   (MIRA 16:8)
                                (Astronomy—Congresses)

KUKARKIN, B.V.; KULIKOVSKIY, P.G.

O.L.Struve; obituary. B.V.Kukarkin, P.G.Kulikovskii. Astron. .
zhur. 40 no.6:1126-1129 N-D '63.   (MIRA 16:12)

KUKARKIN, B.V., prof.

Tagged stars. Priroda 52 no.9:9-16 '63.   (MIRA 16:11)

KUKARKIN, B.V., prof.

Group space flight and astronomy. Priroda 53 no. 12:87 '64.
(MIRA 18:1)

KORCHAGIN, K. Ye.; KUKARKIN, B.V.

Close W Ursae Majoris-type binaries and some problems in the
evolution of stars. Astron. zhur. 43 no. 1:83-88 Ja-F '66
(MIRA 19:2)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K. Shtern-
berga. Submitted April 30, 1965.

14(11), 15   SOV/32-25-1-41/51
AUTHORS: Shelyubskiy, V. I., Galaktionov, S. S., Kukarkin, G. A.

TITLE: Machine for Testing the Bending, and Determining the Young
                Modulus of Glass (Pribor dlya ispytaniya na izgib i opredeleniya
                modulya Yunga stekla)

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 1, pp 114-116 (USSR)

ABSTRACT: The limit of the bending strength and the Yung modulus of glass
                are usually tested on metal testing machines (Ref 1) or on
                simple laboratory apparatus (Ref 2). No equal increase in stress
                can be adjusted there, which fact decreases the measuring
                accuracy, as the strength of glass considerably depends on the
                rate of the increase in stress (Ref 3). An apparatus was con-
                structed which records automatically the magnitude of the de-
                struction stress and makes possible a determination of the
                maximum deformatioh. The operation principle of the apparatus
                (Fig) is that a motor (by way of a worm screw) on a lever of a
                supporting girder displaces the stress while the other arm
                exerts a certain pressure upon the sample from below; thus, the
                sample is pressed against a support fixed above the sample. The
Card 1/2   position of this support can be adjusted and the support itself

SOV/32-25-1-41/51

Machine for Testing the Bending, and Determining the Young Modulus of Glass

is connected with an electric contact which automatically records the stress in the case of the destruction of the sample. The magnitude of the stress is calculated according to the equation (1). The measuring accuracy depends on the production of the sample and is about 2-3%.
There are 1 figure and 4 references, 3 of which are Soviet.

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy institut elektro-vakuumnogo stekla (State Scientific Research Institute of Electro-Vacuum Glass)

Card 2/2

KUKARKIN, P.; RABINOVICH, F.

> Prospecting for a railroad right of way. Grazhd.av 17
> no.3:18 Mr '60.   (MIRA 13:6)
>   (Railroad engineering)

ISAYEV, N.S.; BELOVA, Ye.I.; KUKARKINA, M.N.; OZHIGANOVA, Z.I.;
 SHEREMETEVSKAYA, T.A.; YURIN, B.A., red.; KOROBOVA, N.D.,
 tekhn. red.

[Documents of proletarian solidarity; collected documents on the
cooperation of Soviet Union workers with the workers of Asia,
Africa and Latin America in 1918-1961]Dokumenty proletarskoi so-
lidarnosti; sbornik dokumentov o sodruzhestve trudiashchikhsia
Sovetskogo Soiuza s trudiashchimisia stran Azii, Afriki i Latin-
skoi Ameriki v 1918-1961 godakh. Moskva, Profizdat, 1962. 207 p.
                                        (MIRA 15:12)
              (Trade unions)

KUKARKIN, N. P.

Stars, Variable

Long-period Cepheid DF Lacertae. Per. zvezdy 8, No. 6, 1952.

9. **Monthly List of Russian Accessions**, Library of Congress, _May_ 1953. Unclassified.

KUKARKINA,N.P.

EM Lacertae, a new variable of the type of W UMa. Per.zvezdy
9 no.1:77-78 S'52. (MLRA 8:10)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K.Shtern-
berga. (Stars, Variable)

KUKARKINA,N.P.

EO Lacertae, a new variable of the type of β Lyrae. Per. zvezdy 9 no.1:78 S'52. (MIRA 8:10)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K.Shternberga.

(Stars, Variable)

1. KUKARKINA, N.

2. USSR (600)

4. Stars, Variable

7. Three new eclipsing variables, Astron. tsir., No. 124, 1952.

9. Monthly List of Russian Accessions, Library of Congress, ___April,___ 1953, Uncl.

KUKARKINA, N. P.

"Variable Star BD 60° 2613", Peremennyye Zvezdy, No 6, 1953, pp 407-408

Abs

W-31146, 1 Feb 55

KUKARKINA, N. P.

"BV Cassiopeiae" (Astrophysics, Observations of Variables), Peremennyye Zvezdy, No 6, 1953, pp 411-412

Abs

W-31146, 1 Feb 55

KUKARKINA, N. P.

Astrophysics, Observations of Stars (1665)
Peremennyye Zvezdy, Vol 9, No 4, 1953, pp 294-296
KUKARKINA, N. P.
"The Eclipsed Variable LR Cassiopeia"
    Clears up contradictions which previously existed about the variable. Points out
that it belongs to type beta stars.

SO: Referativnyy Zhurnal--Astronomiya i Geodeziya, No 1, Jan 54;(W-30785, 28 July 1954.)

KUKARKINA, N.P.

Variable star BD +60°2613. Per.zvezdy 9 no.6:407-408 O '53.

(MIRA 8:2)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K. Shtern-berga.

(Stars, Variable)

KUKARKINA, N.P.

BV Cassiopeiae. Per.zvezdy 9 no.6:411-412 O '53. (MLRA 8:2)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K.Shtern-
berga.
(Stars, Variable)

KUKARKINA, N.P.

FLORYA, N.P.; KUKARKINA, N.P.

57 long-period Cepheids. Trudy GAISH 23:3-61;302 et seq. '53.
(MLRA 7:5)
(Stars, Variable)

KUKARKIN, B.V.; KUKARKINA, N.P.

SS Lyrae. Astron.tsir. no.137:9-10 Ap '53. (MLRA 6:8)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K.Shternberga.
(Stars, Variable)

KUKARKINA, N.P.

First plenary session of the Committee on Cosmogony. Vop.kosm.
3:329-335 '54.   (MLRA 8:3)
        (Astronomy—Societies)

KUKARKINA, N.P.

Using Gertsshprung's method to interpret observations of SU Cassio-
peiae. Per.zvezdy 10 no.1:57-59 Ja '54.   (MLRA 8:2)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K.Shtern-
berga.
    (Stars, Variable)

KUKARKINA,N.P.

Investigation of the variation in brightness of four Cepheids.
Per.zvezd. 10 no.2:92-99 Je '54.   (MIRA 8:9)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K.Shtern-
berga.

(Stars, Variable)

KUKARKINA,N.P.; PEROVA,N.B.

BW Scuti. Per.zvezd. 10 no.2:129 Je '54. (MLRA 8:9)

1. Gosudarstvennyy astronomicheskiy institut
(Stars, Variable)

KUKARKINA,N.P.

Three long-period Cepheids. Per.zvezdy 1C no.3:175-179 O'54.
(MIRA 8:12)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K.Sternberga
(Stars, Variable)

KUKARKINA, N.P.

Fourth conference on problems in cosmogony, October 26-29, 1954.
Vop.kos.4:289-303 '55.   (MIRA 9:4)
(Astronomy---Congresses)

KUKARKINA, N.P.

Cepheid RS Orionis. Per.zvezdy 10 no.5:323-325 '55. (MLRA 9:9)

1. Gosudarstvennyy astronomicheskiy institut imeni
P.K. Shternberga Moskva.
(Stars, Variable)

KUKARKINA, N.

A new eclipsing variable. Astron. tsir. no.183:17 Jl '57.

(MIRA 11:3)

1. Gosudarstvennyy astronomicheskiy institut im. P.K. Shternberga, Moskva.

(Stars, Variable)

KUKARKIN, B.V.; KUKARKINA, N.P.

Investigating variable stars in the globular cluster M3-NGC 5272.
Part 1. Catalog of photographic magnitudes of 81 stars in the
outer regions of the cluster. Per.zvezdy 12 no.4:291-292 Je
'58.   (MIRA 13:4)

1. Gosudarstvennyy astronomicheskiy institut im.P.K.Shternberga.
            (Stars, Variable)

KUKARKINA, N.P.

Semiregular variable BD + 55°224 Cassiopeiae. Per.zvezdy 12
no.4:314-315 Je '58.   (MIRA 13:4)

1. Astronomicheskiy sovet AN SSSR.
        (Stars, Variable)

З(I) 3. 1560

80181
S/026/60/000/05/015/068
D034/D007

AUTHOR: Kukarkina, N.P.

TITLE: The New Hercules Star Discovered in 1960

PERIODICAL: Priroda, 1960, Nr 5, p 62 and insert between pp 62 and 63
            (USSR)

ABSTRACT: The article supplies some information on the efforts to
            complete knowledge about the new star discovered on 7
            March 1960 by the Norwegian amateur-astronomer K.Hassel.
            It is known that at the observatories of Abastumani (Gruz-
            inskaya SSR), at the Krymskaya astrofizicheskaya observatori-
            ya AN SSSR (Crimean Astrophysical Observatory of the AS
            USSR), at the Yuzhnaya stantsiya GAISch (Southern Station of
            GAISch) in Crimea, many spectrograms of the new star could
            be obtained. Photographs and visual evaluations of the
            brilliance of the new star were made from 9 March in Vil'nyus,
            Irkutsk, Kiyev, Moscow, Odessa, Rostov-na-Donu, Sverdlovsk,
            Tomsk. In the insert a preliminary brilliance curve is
Card 1/2   given. It became known that prior to its discovery the new

80181
S/026/60/000/05/015/068
D034/D007

The New Hercules Star Discovered in 1960

        star was photographically recorded at the observatory in
Kurasiki in Japan. The photographs obtained in Japan show
that by the end of February the star was below the tenth
order and reached the maximum of brilliancy about 4 March.
Photographs made in Moscow towards the end of March show
that the brilliance of the star diminishes and towards 27
March reached the order 6.5. There is 1 insert with 2 photo-
graphs and 1 graph.

ASSOCIATION: Astrosovet AN SSSR (Astronomical Council of the AS USSR)

Card 2/2

KUKARKINA, N.P.

The 13th Plemum of the Committee on Variable Stars of the Astronomical
Council of the Academy of Sciences of the U.S.S.R. Astron.tsir.
no.213:30-31 Jl '60.   (MIRA 14:1)

1. Astrosovet AN SSSR.
                        (Stars, Variable—Congresses)

KUKARKIN, B.V.; KUKARKINA, N.P.

Investigating variable stars in the globular cluster M3-NGC 5272.
Per.zvezdy 13 no.4:239-247 Mr '61.   (MIRA 15:3)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K.Shternberga
i Astronomicheskiy Sovet AN SSSR, Moskva.
                (Stars, Variable)

KUKARKINA, N.P.; KUKARKIN, B.V.

Variable stars with a Blazhko effect in the globular cluster M3.
Per.zvezdy 13 no.5:309-316 Je '61.   (MIRA 15:8)

1. Astronomicheskiy sovet AN SSSR, Moskva.
                    (Stars, Variable)

18.5200

75964
SOV/133-59-10-25/39

AUTHORS: Grebenshchikova, A. Z., Kukarskikh, A.

TITLE: Aging of Soap Baths for the Oiling of Parkerized Tubes

PERIODICAL: Stal', 1959, Nr 10, p 932 (USSR)

ABSTRACT: As a result of investigations the following soaping
               technique for parkerized tubes was adopted: (1) content
               of soap in the bath, 4 to 5%; (2) length of soaping,
               5 to 10 min; (3) solution temperature, 40 to 50° C;
               (4) hydrogen ion concentration index: $P_H = 8$. The soap

               bath was constantly neutralized by caustic soda solution.
               Advantages: (1) saving of soap; (2) effectiveness of
               the solution was prolonged from 10 to 14 days to 4 to 5
               months.

ASSOCIATION: Pervoural'sk New Pipe Plant (Pervoural'skiy novotrubnyy
               zavod)

Card 1/1

PLYATSKOVSKIY, O.A., kand.tekhn.nauk; Prinimali uchastiye: OSLON, N.D.;
NODEV, E.O.; DEVYATISIL'NYY, V.I.; SULTINSKIKH, A.N.; SHAHIN, P.K.;
KUKARSKIKH, V.I.; RAKHNOVETSKIY, L.Y.; DUYEV, V.N.

New technological processes used in rolling 102-170 mm. diameter
pipes of stainless steel 1Kh18N9T. Biul.nauch.-tekh.inform.VNITI
no.4/5:24-30 '58.   (MIRA 15:1)
                        (Pipe mills)

L 30555-65   ENT(m)/ENP(w)/EWA(d)/T/ENP(t)/ENP(k)/ENP(b)   Pf-4   MJW/JD/HW   47
41
@

ACCESSION NR: AP5002974   S/0133/65/000/001/0049/0052

AUTHOR: Plyatskovskiy, O. A.(Doctor of technical sciences); Yuferov, V. M.(Candi-
date of technical sciences); Pavlovskiy, B. G.(Engineer); Vorona, V. M. (Engineer);
Lezinskaya, Ye. Ya.(Engineer); Vovsina, A. D.(Engineer); Chemerinskaya, R. I.
(Engineer); Karpenko, V. B.(Engineer); Kukarskikh, V. M.(Engineer)

TITLE: Mastering the production of 1Kh15N9S3B steel pipe

SOURCE: Stal', no. 1, 1965, 49-52

TOPIC TAGS: steel pipe, pipe rolling, austenite steel, martensite steel, stainless
steel, stainless steel pipe, steel phase transformation / steel 1Kh15N9S3B

ABSTRACT: Phase transformations of austenite into martensite in 1Kh15N9S3B stain-
less steel during cold deformation has been taken into consideration in developing
the technology of hot-and cold-rolled pipes. The martensite point M_H for the de-
formation of this steel lies around 150C and the range of reversal from martensite
to austenite is between 500 and 700C. Mass production of thinwalled 1Kh15N9S3B
steel pipe is quite possible if the raw material is free of nonmetallic impurities
(nitrides and carbonitrides). The above steel type (=EP302) differs from 1Kh18N10T
by having a 3% lower Cr content substituted by 3% Si. It shows interesting proper-

Card 1/2

L 30055-65
ACCESSION NR: AP5002974

ties: thus, its ductility changes during hot deformation and the breakdown of un-
stable austenite into martensite takes place during cold deformation. Tests on the
hot rolling of forged 90 mm diameter billets are described in great detail. Great
accumulations of nitrides were observed. Cut-out samples were subjected to tensile
strength tests at various temperatures and the content of the ferro-magnetic alpha-
phase was determined. On the basis of these tests, the following procedure was re-
commended: first passes of cold rolling are to be done at 150C. Ready pipes are
heat treated at 1050-1100C. This steel has a tendency to be hardened considerably
by cold working but heat treatment later removes this hardness nearly completely.
Despite martensite formation, cold rolling was satisfactory up to 60% deformation.
Cold drawing was also satisfactory except for cracks where there was considerable
accumulation of nitride impurities. "G. N. Syusin and B. N. Kuznetsov participated
in the work." Orig. art. has: 6 figures and 2 tables.

ASSOCIATION: VNITI; Novotrubnyy zavod ("Novotrubnyy" plant)

SUBMITTED: 00   ENCL: 00   SUB CODE: MM

NO REF SOV: 000   OTHER: 000

Card 2/2

L 18475-66   EWT(d)/EWT(m)/EWA(d)/EWP(t)/EWP(k)/EWP(l)   JD/EW

ACC NR: AR6009958   SOURCE CODE: UR/0137/65/000/012/D012/D013

AUTHOR: Kaufman, M. M.; Gleyberg, A. Z.; Finkel'shteyn, Ya. S.; Kuryatnikov, A. V.; Kukarskikh, V. N.; Chemerinskaya, R. I.; Salyuk, L. A.; Pil'nikova, N. N.; Vedyakin, N. M.; Sultinskikh, A. N.; Kalugin, Ya. P.

ORG: none

TITLE: Improving the quality of stainless steel pipe

SOURCE: Ref. zh. Metallurgiya, Abs. 12D101

REF SOURCE: Sb. Proiz-vo svarn. i besshovn. trub. Vyp. 4. M., Metallurgiya, 1965, 51-59

TOPIC TAGS: stainless steel, pipe, metal rolling, metal heat treatment, metal inspection, steel/Kh18N10T steel

TRANSLATION: An intensified process is developed for heating metal. Experimental rolling showed that use of this process reduces scrap due to flaws on the interior surface of pipes to $\frac{1}{2}$ at primary inspection. Reducing temperature for metal heating and pipe rolling and increasing feed angle of rolls on the piercing mill (10°-10° 30') improves pipe quality. Kh18N10T steel with a high concentration of α-phase (14-16%) results in an increased rate of pipe scrap at initial inspection (up to 70%), as well as a high percentage of rejects at final inspection (up to 70%), as well as a high percentage of rejects at final inspection (up to 15%). Therefore this grade of steel with an α-phase concentration of more than two points ball cannot be recommended for pipe production. L. Kochenov. [JPRS]

Card 1/1   SUB CODE: 13   UDC: 621.785.1

E.G(j)/EWT(d)/EWP(e)/EWT(m)/EWF(c)/EWT(t)/EWA(d)/EWP(v)/EWR/T/
EWP(k)/EWP(h)/EWL(b)/EWP(l)/EWA(c)   Pf-4/Pr-4/Pc-4   BW/JD/WW/HW/DJ/ 3
WH

ACCESSION NR: AP5014865   UR/0133/65/000/006/0549/0550
                                       621.774.35: 621.893

AUTHOR: Grebenshchikova, A. Z.; Lyadova, A. A.; Kaufman, M. M.; Gleyberg, A. Z.;
Nodev, E. O. ; Kukarskikh, V. N.; Stoletniy, M. F. ; Stern, V. A.

TITLE: Lubricant for tube rolling in a continuous mill

SOURCE: Stal', no. 6, 1965, 549-550

TOPIC TAGS: graphite lubricant, continuous tube mill, smokeless lubricant,
antifriction, nine high mill, inorganic compound, seamless tubing, hot deformation

ABSTRACT: Lubricants consisting of graphite and different petroleum products
are widely used in the production of seamless tubing by hot-deformation methods,
particularly in the continuous rolling mills with long mandrels as well as in
power presses. Although these lubricants are relatively uninvestigated, it is
known that graphite at high temperatures (900-1200°C) loses its antifriction
properties. Besides, the combustion of the petroleum products in the lubricants
contaminates the atmosphere and equipment in the shop. There also exists the
vitreous type of lubricants, used only for the pressing of tubes from high-alloy
steels, and equally difficult and expensive to fabricate. The techniques of
applying the lubricant are of major importance, and their mechanization is

Card 1/3

L-53983-65

ACCESSION NR: AP5014865   2

advisable, particularly in the modern automatic continuous tube rolling. Futher, the author describes tests of nine selected lubricants, including those recently developed on the basis of inorganic compounds -- salts of chloride and phosphate. . (Phosphorus - and chlorine - containing lubricants form phosphides and chlorides on the contact surfaces and the resulting boundary film prevents the interlocking of metals, reducing the friction coefficient.) The effective- ness of the selected lubricants was tested while rolling tubes in the 18 m long mandrel of a continuous nine-high mill with nine individual power drives, the lubricants being evaluated and compared according to the load on the motors of the principal stands of the mill (6th to 8th) and the sliding rate of tube from the mandrel. Compared with the graphite-fuel oil lubricant 9 and the other seven lubricants tested, lubricant 7 proved to be the most effective. The exact composition of this lubricant is not described, but the author states that it was developed on the basis of "inorganic compounds" and has a density of 1.65 g/cu cm, bulk weight of 0.98 ton/cu m, melting point of 850-900°C, and solubility of 64% in water. This smokeless lubricant displays the best antifriction properties and ensures a normal rolling process. Its components do not consist of scarce materials and therefore

Card   2/3

L-53983-65

ACCESSION NR: AP5014865

it is considerably (about six times) less expensive than graphite-fuel oil
lubricants. Orig. art. has: 1 figure, 1 table.

ASSOCIATION: none

SUBMITTED: 000   ENCL: 00   SUB CODE: FP,
                                                                   MM
NO REF SOV: 001   OTHER: 001

Card 3/3

L 00558-66   EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(k)/EWP(b)/EWP(z)/EWA(c)
MJW/JD/HW

ACCESSION NR: AP5019945   UR/0133/65/000/008/0730/0734
                                           621.774.35

AUTHORS: Teterin, P. K.; Luzin, Yu. F.; Kats, G. I.; Kaufman, M. M.; Kukarskikh, V. N.

TITLE: Manufacture of stainless steel pipes with low nickel content

SOURCE: Stal', no. 8, 1965, 730-734

TOPIC TAGS: stainless steel pipe, stainless steel, steel alloy / EP53 steel, EP54 steel, OKh21N6M2T steel, OKh21N5T steel

ABSTRACT: The plastic properties and structure of new low-nickel alloys OKh21N5T (EP53) and OKh21N6M2T (EP54), recommended as substitutes for steels 1Kh18N9T and 1Kh18N12M2T, were investigated at TsNIIChM; the technology of pipe rolling from these steels was developed and introduced at Novotrubnyy zavod. By hot twisting it was found that plasticity of the steels increased steadily with working temperature (1000-1250C) and rose sharply above 1200C. Thirty specimens were pierced at different temperatures (3 of each steel at 1050, 1100, 1150, 1200, 1250C), and impact strength and microstructure were investigated. It was found that the impact strength at room temperature decreased as piercing temperature increased,

Card 1/2

L 00558-66

ACCESSION NR: AP5019945   /0

dropping sharply above 1200C (from 20 and 14 kgm/cm^2 at 1200C to 14 and 7 kgm/cm^2
at 1250C for EP53 and EP54 respectively) and that the grain size increased above
1200C. Thus for satisfactory mechanical and surface properties the working tem-
perature should be kept at $\approx$1150C. Comparison of pressure on the rollers and
power requirements between these steels and expensive alloys 1Kh18N9T and
1Kh18N12M2T showed these to be 30-40% lower (on the average) for the new alloys.
After hot-rolling into 41 x 4.5-mm pipes (at 7° feed, roller speed 2.0 m/sec, wall
thickness reduction 32%, drawing coefficient 1.8-1.85, final temperature 950-
1000C) the alloy properties were found to be σ_B = 70.1, 63.0 kg/mm^2; σ_5 = 29.3,
29.5%; a_k = 19.8, 16.1 kgm/cm^2 for EP53 and EP54 respectively after quenching
from 1050C in water. Based on these results, technical parameters were defined
for making pipes (ChMTU/UkrNITI No 313-61) and pipe blanks (ChMTU/TsNIIChM No 569-
61). After rolling 108 x 5.5 mm and 89 x 4.5 mm pipes under industrial conditions
it was found that the best heat treatment consisted of 8-10 minutes at 970C and
quenching in water (for both steels). Orig. art. has: 4 figures and 6 tables.
ASSOCIATION: TsNIIChM (TsNIIChM); Novotrubnyy zavod (New Pipe Plant)
SUBMITTED: 00   ENCL: 00   SUB CODE: MM, IE

NO REF SOV: 000   OTHER: 000

Card 2/2

HILLER, Jozsef; KUKASZ, Gyorgy, Dr.

Planning according to value, quantity and time in the German
Democratic Republic. Epites szemle 5 no.2:49-53 '61.

KUKARTSEV, A.N., inzh.; POLESHCHUK, B.I., inzh.; BOLDYREV, P.I., inzh.; VAYDUROVA, R.I., tekhnik.

Investigating coal seam breaking by means of a cone wedge in mining the Second Internal. Sbor. KuzNIUI no.10:165-176 '64.
(MIRA 18:9)

KUKATELADZE, K.S.

PROCESSES AND PROPERTIES INDEX

Formation of magnesium silicates in the solid phase. K. S. KUKATELADZE AND V. I. LUTSENKO *Ogneupory*, 14 [11] 490-496 (1949).—The problem was investigated by studying the reactions and processes of the following mixtures: (1) $2MgO + SiO_2$, (2) $10MgO + SiO_2$, and (3) $MgO + 10SiO_2$. Isothermal firing was at $900°$ to $1500°C$. The mineralogical composition of the fired mixtures was determined with a microscope, and quantitative determination of phase composition was made by selective solution in dilute HCl. Results indicate that successive reactions in the formation of Mg silicates in the solid phase are (1) $2MgO + SiO_2 = Mg_2SiO_4$, and (2) $Mg_2SiO_4 + SiO_2 = 2MgSiO_3$. The rate of formation of clinoenstatite was much less than that of forsterite at the same firing temperature. Regardless of the proportion of the components in the mixture, the formation of analytically determinable amounts of clinoenstatite started at $1200°$, while for forsterite it was $900°$. The larger the excess of SiO_2 above the stoichiometric amount for forsterite, the lower was the temperature and the shorter was the time interval for the appearance of the first amounts of clinoenstatite. Forsterite mixture, and mixtures close to it, were very sensitive to unequal mixing of the components; an excess of SiO_2 in separate sections of the mixture resulted in the formation of clinoenstatite when fired above $1200°$. An increase in the "mobility" of the structural particles of solid phases with rising firing temperature is the general condition for the rapid development of reactions and accompanying processes (diffusion, polymorphic changes, and recrystallization). 4 photomicrographs.   B. Z. K.

ASM SLA   METALLURGICAL LITERATURE CLASSIFICATION

PAVLOV, Yu.V.; KUKATOV, N.I.

Reconstruction of a continuous heating furnace. Metallurg 9 no.1:
31-32   Ja '64   (MIRA 18:1)

1. Yuvenergometallurgprom i Konstantinovskiy metallurgicheskiy
zavod.

KURAVADZE, G. M.; KONIKOVA, A. S.; KRITSMAN, M. G.; CERKLEVICH, V. V.; DAVIDOVA, S. YA.; OTTESEN, B. V.; MEN'SHIKOV, M. I.; GOLDIN, L. L.

"Investigation on the Restoration of Dicarboxylic Aminoacids in the Blood, with the Aid of Heavy Carbon C^{13}," Dokl. AN SSSR, 66, p. 899-900, 1949.

KUKAVADZE, G. M., GOLDIN, L. L., ANIKINA, M. P. and ERSHLER, B. V.

     "Determination of the Absorption Cross-Section and of the Radiation Capture Cross-Section of Uranium - 233 for Pile Neutrons," apaper presented at the Atoms for Peace Conference, Geneva, Switzerland, 1955

KUKAVADZE, G.M.; GOL'DIN, L.L.; ANIKINA, M.P.; ERSHLER, B.V.

[Measurement of the cross sections of the absorption and radiative capture of neutrons in U^{233} and the pile neutron spectrum] Izmerenie secheniia pogloshcheniia i secheniia radiatsionnogo zakhvata urana-233 dlia kotel'nogo spektra neitronov. Moskva, 1955. 13 p.

(MIRA 14:7)

(Neutrons—Capture)   (Mass spectrometry)
(Uranium—Isotopes)

KUKAVADZE, G. M.

60q-RML

Yields of neodymium and cerium isotopes from the fission of uranium-233. G. M. Kukavadze, M. P. Anikvn, L. L. Gol'din, and B. V. _____ Akad. Nauk S.S.S.R. po Mirnomu Ispe tsoaniya Atomnoi Energii, July 1-5, 1955, Zasedaniya Otdel. Khim. Nauk (Moscow), 205-9(English summary).—The fission yields of various isotopes of Ce and Nd were detd. mass spectroscopically by the isotope-diln. method. The yields are as follows: Ce¹⁴⁰, 5 6 ± 0 17%, Ce¹⁴⁴, 5.6 ± 0.17%; Nd¹⁴³, 5.15 ± 0.3%; Nd¹⁴⁴, 3.37 ± 0.3%; Nd¹⁴⁵, 3 (a) ± 0.3%; Nd¹⁴⁶, 2.34 ± 0.15%, Nd¹⁴⁸ ... ... %, and Nd¹⁵⁰ 0.51 ± 0.04%. ... ...

(3)

not - _____ Chem., AMS ____

Кантинидд, G.III.

USSR / Isotopes.   B-7

Abs Jour : Ref Zhur – Khimiya, No 8, 1957, 26035

Author   : M.Ya. Kats, G.M. Kukavadze, R.L. Serdyuk
Title   : The Coefficient of Separation of Liquid BCl_3 and Its Va-
            por by Chlorine Isotopes.

Orig Pub : Zh. tekhn. fiziki, 1956, 26, No 10, 2401 – 2402

Abstract : As the result of BCl_3 rectification at 23°, the ratio of
            isotopes B^{11}/B^{10} was altered from 4.13 ± 0.02 to 3.60 ± 0.02, and that of Cl^{35}/Cl^{37} from 3.05 ± 0.02 to 2.94 ± 0.02. Provided the number of theoretical plates in
            the column with reference to the isotopes of B and Cl was
            the same, the separation factor (SF) between the liquid
            BCl_3 and its vapor with reference to the Cl isotopes is
            equal to 1.001, if the SF with reference to the B isoto-
            pes was equal to 1.004. Molecules of $B^{11}Cl^{35}$ possess
            the greatest volatility, and those of $B^{10}Cl^{37}$ possess
            the least.

Card   : 1/1

KUKAVADZE, G. M.

Two-filament ionic source with surface ionization for the 3
mass spectrometer. R. N. Ivanov and G. M. Kukavadze.
Pribory i Tekh. Eksperimenta 1957, No. 4, 100-101
Ionic source is described for the mass spectrometer which is
used for analyses of solids and which is based on surface
ionization. In conventional thermionic sources, the solid
evaps. from one emitter in the form of neutral atoms, while
in the described source the atoms evap. from one filament.
Ionization takes place on another one. The yield of
ionization increases...

KUKAVADZE, G.M.

. SUBJECT	USSR / PHYSICS CARD 1 / 2 PA - 1830
AUTHOR	KAC,M.JA., KUKAVADZE,G.M., SERDJUK,R.L.
TITLE	Enrichment of Boron with the Isotope B^{10}.
PERIODICAL	Žurn.techn.fis,<u>26</u>, fasc.12 (2744-2748 (1956)
	Issued: 1 / 1957

It was the purpose of this work to work out a plan for a laboratory plant for the winning of boron which is enriched with B^{10}. This problem was solved by the rectification of BCl_3. At first the plant is described. From the data mentioned it may be seen that 1. The time in which isotopic equilibrium is established amounts to less than 20 hours. 2. With the isotopic equilibrium established between the liquid BCl_3 and its vapor the concentration of the gas (B^{11}) surpasses that of the liquid. 3. On the occasion of. the rectification of BCl_3 the distribution coefficient between the liquid and the vapor with respect to boron isotopes is $\alpha = 1.0043$ at 23° C. In the same plant the attempt was made to obtain a certain quantity of BCl_3 which was enriched with B^{10}. Measuring results obtained for the ratio of $\frac{B^{11}}{B^{10}}$ concentrations in 21 successive cases of extraction are shown together in a table. The analysis of all measurements showed that the entire enrichment diminishes somewhat in the course of time. Measurements of the isotopic composition of chlorine showed in the various samples that the distribution coefficient with respect to chlorine isotopes between BCl_3 and its vapor is less

than 1.001. The isotope analysis of BCl_3 was carried out in a mass spectrometer.

According to works by SJUTCE, OSBERGHAUS, and THODE, MACNAMARA, LOSSING, and CALLINS, as well as the unpublished works by the authors the measuring results with respect to the ratio:

$\frac{B^{11}}{B^{10}}$ for the "initial" product apparently in every concrete case depend on the place where boron was found. Besides it depends on the method of winning the respective boron compound and fluctuations between

$\frac{B^{11}}{B^{10}}$ and 4.10 - 4.46. The difference of this ratio for various boron compounds is ten times the amount of measuring errors.

INSTITUTION:

Kukavadze, G.M.

AUTHORS: Gorshkov, V.K., Ivanov, R.N., Kukavadze, G.M.,   89-7-2/32
             Reformatskiy, I.A.

TITLE: The Yield of Fission Products of U^{235} Within the Domain of Rare
             Earths (Vykhod produktov deleniya U^{235} v redkozemel'noy oblasti)

ABSTRACT: The present paper describes the measuring of these yields by means
             of the integral mass-spectrographic method, with the help of which
             the relative share (in %) of several elements contained in the
             sample can be determined simultaneously during the experiment.
             This method permits the mass-spectroscopical measuring of the yields
             on La^{139}, Pr^{141}, Pm^{147} and Pm^{149}. Working out this method and
             measuring took place on a mass spectrograph with a resolving capac-
             ity of 1 : 800. First, the production of the samples is discussed.
             The uranium preparation enriched somewhat with U^{235} was here irra-
             diated with thermal neutrons in a reactor. The final results of
             these mass-spectrographic measurings are shown in a table and are
             compared with some data given in publications.
             Lanthanum, praeseodymium, promethium, samarium: The increased yield
Card 1/3   of La^{139} can hardly be explained by means of the hitherto existing

The Yield of Fission Products of U^{235} Within the
Domain of Rare Earths

theoretical investigations concerning the course of the curve of
the yields. The peak "composed" from Pm^{147} and Sm^{147} was separated
on the basis of the difference between the sublimation temperatures
of samarium and promethium. According to various details given con-
cerning the above mentioned elements the authors compute the cross
section of the absorption of neutrons for Pm^{147} and find:

$$\sigma_{147} = 90 \pm 20 \text{ barn.} \quad \sigma^{Sm}_{147} = 1000 \pm \text{ barn.}$$

Neodym: The yields of: Nd^{143} and Nd^{144} given here are somewhat
lower than those given in publications. Cerium: Two isotopes are
contained mainly in the sample investigated here, namely Ce^{140} and
Ce^{142} with the ratio of the masses $M_{140}/M_{142} = 1,082 \pm 0,029$. The
lack of noticeable amounts of Ce^{144} is explained by their decay in
Nd^{144}. Samarium: For the lower limit of the absorption cross sec-
tion of Sm^{149} for thermal neutrons the value $58\ 000 \pm 9000$ barn is
found. The following composition of isotopes for samarium was found
by the authors (in %):

Card 2/3

The Yield of Fission Products of U^{235} Within the   89-7-2/32
Domain of Rare Earths

Sm^{146}: 40 ± 3; Sm^{148}: 15 ± 2; Sm^{150}: 38 + 3; Sm^{152}: 7 ± 2.
There are 1 figure, 3 tables, and 6 references, 3 of which are
Slavic.

SUBMITTED: January 12, 1957

AVAILABLE: Library of Congress

Card 3/3   1.   Uranium isotopes (Radioactive)-Fission   2.   Rare
earths-Mass spectra   3.   Lanthanum isotopes (Radio-
active)-Determination   4.   Praesecdymium isotopes
(Radioactive)-Determination   5.   Promethium isotopes
(Radioactive)-Determination   6.   Samarium isotopes
(Radioactive)-Determination   7.   Neodym isotopes
(Radioactive)-Determination

KUKAVADZE, G. M.

AUTHORS: Ivanov, R. N., Gorshkov, V. K., Anikina, M. P.,   89-12-11/29
             Kukavadze, G. M., Ershler, B. V.

TITLE: Fission Yields of Several Heavy Fission Products of U^{233}
             (Vykhody nekotorykh tyazhelykh oskolkov pri delenii U^{233})

PERIODICAL: Atomnaya Energiya, 1957, Vol. 3, Nr 12, pp. 546-547 (USSR)

ABSTRACT: The absolute fission yields were determined by means of the
             isotope dilution method (1) and of the mass spectrographically
             obtained integral concentrations (2). The sample of U^{233} was
             irradiated for two months in a reactor.
             The following yields in % were measured:

Card 1/3

Fission Yields of Several Heavy Fission Products of U^{233} 89-12-11/29

Absolute Yield according to

Isotope	Method 1	Method 2
Cs^{133}	$5,2 \pm 0,3$	$5,50 \pm 0,13$
Cs^{137}	$5,8 \pm 0,3$	$6,16 \pm 0,14$
Ce^{140}	$5,45 \pm 0,50$	$6,16 \pm 0,24$
Ce^{142}	$5,5 \pm 0,5$	$6,06 \pm 0,24$
Nd^{143}	$5,0 \pm 0,3$	$5,19 \pm 0,17$
Nd^{144}	$3,8 \pm 0,4$	$3,84 \pm 0,15$
Nd^{145}	$2,82 \pm 0,25$	$2,88 \pm 0,08$
Nd^{146}	$2,20 \pm 0,15$	$2,24 \pm 0,07$
Nd^{148}	$1,03 \pm 0,10$	$1,07 \pm 0,04$
Nd^{150}	$0,51 \pm 0,08$	$0,49 \pm 0,02$
Sm^{149}	$0,66 \pm 0.13$	$0,70 \pm 0,03$
$Sm^{151+152}$	$0,60 \pm 0,14$	-- --
Sm^{151}	-- --	$0,54 \pm 0,03$

Card 2/3

Fission Yields of Several Heavy Fission Products of U^{233} 89-12-11/29

The Xe^{135} absorption coefficient was obtermined at
$(3,2 \pm 1,0) \cdot 10^6 b$.
(There are 1 table, 1 figure and 8 references, 5 of which
are Slavic).

SUBMITTED: May 20, 1957

AVAILABLE: Library of Congress

Card 3/3

KUKAWADZE, G. M.

MURIN, A. N., ERSHLER, B. V., KUKAWADZE, G. M., ANIKINA, M. P., GORSHKOV,
V. K., IVANOV, R. N., KRIZANSKIY, L. M. and REFORMATSKIY, I. A.

"Mass-Spectrometric Study of U^{233}, U^{235} and Pu^{239} Fission Products."

paper to be presented at 2nd UN Intl. Conf. on the peaceful uses of Atomic
Energy, Geneva, 1 - 13 Sep 58.

KUKAVADZE, G. M.

AUTHORS: Anilina, M. P., Ivanov, R. N.,   89-2-22/35
              Kukavadze, G. M., Ershler, B. V.,

TITLE: The Half-Life of Sr^{90} and Its Fission Yield from U^{233} (Period
              poluraspada Sr^{90} i vykhod ego pri delenii U^{233}).

PERIODICAL: Atomnaya Energiya, 1958,   Nr 2, pp. 198-198 (USSR)

ABSTRACT: According to the usual method the half-life of Sr^{90} was
              determined to be $29,3 \pm 1,6$ a.
              The yields of Sr^{90} and Sr^{88} in the $U^{233}(n,f)$ reaction were de-
              termined to be $5,3 \pm 0,3$ % for Sr^{88} and
                          $5,8 \pm 0,4$ % for Sr^{90}.
              The yield for Sr^{90} given in reference 7 must be calculated a
              new, as the half-life period of 19,9 a was still used there.
              When the newly determined half-life period is used, the yield
              in this case amounts to $6,3 \pm 0,3$ %. There are 1 table and 7
              references, 4 of which are Slavic.

SUBMITTED: September 18, 1957

AVAILABLE: Library of Congress

Card 1/1   1. Half life-Measurement   2. Strontium 90-Half life-Measurement

AUTHOR: Kukavadze, G.   SOV/89-5-4-19/24

TITLE: The Dresden Molecular Mass Spectrograph (Drezdenskiy
               molekulyarnyy mass-spektrograf)

ABSTRACT: At a conference of the German Physical Society held at Dresden
               on April 27, 1958, Professor Manfred von Ardenne spoke about
               a mass spectrograph developed by himself, which contains, as
               an innovation, an ion source with electron capture. In this
               source the possibility of a decay of complicated molecules
               into less complicated molecules or atoms is excluded. This is
               attained by a constriction of the plasma in a low-voltage dis-
               charge.
               The new device makes it possible to investigate organic mole-
               cules and macromolecules, which will be of importance for the
               chemistry of mineral oils and polymers.

Card 1/1

5(4) 28(5)
AUTHOR: Kukavadze, G. M.

SOV/76-33-6-42/44

TITLE: Present Day Possibilities of Mass Spectrum Analysis of Solid Substances (Sovremennyye vozmozhnosti mass-spektral'nogo analiza tverdykh veshchestv)

ABSTRACT: As the determination of impurities in materials used for the manufacture of semiconductors is gaining in importance, the present paper deals with the corresponding applicability of mass spectroscopic analysis. The different working methods are compared with their measuring sensitivity. The methods of the "vacuum spark", of the "high-temperature ray source" and of the "bifilar thermoion ray source" are explained, and it is stated, among other things, that some drawbacks of the first-mentioned method are eliminated by carrying out a bombardment of the sample with ions (Refs 4,6,7), which (in contrast to the electron irradiation) considerably intensifies the emission of secondary ions. An advantage of the second-mentioned method (Ref 9) lies in the circumstance that the percentage content of some elements

Card 1/2

Present Day Possibilities of Mass Spectrum Analysis of Solid   SOV/76-33-6-42/44
Substances

in the sample can be simultaneously determined (Ref 10); but
the method can only be applied to certain elements. For the
analysis by the first-mentioned method, some milligrams of the
sample are required, by the second-mentioned only some tenth
or hundredth parts of a milligram, and by the last-mentioned
method, only some micrograms or even less. Subsequent to the
above-mentioned methods, the method of Isotopic dilution
(Refs 4,12), which was first applied in biology under the term
of "method of the inner standard" (Ref 13), is explained, and
it is stated that this method is more sensitive than the 3
above-mentioned methods. There are 13 references, 6 of which
are Soviet.

SUBMITTED: August 6, 1958

Card 2/2

S/081/62/000/006/009/117
B166/B101

AUTHORS: Agafonov, I. L., Kukavadze, G. M., Borisov, G. K., Orlov, V. Yu.

TITLE: Mass spectra of monosilane and monogermane

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 6, 1962, 16, abstract 6B76 (Tr. po khimii i khim. tekhnol. (Gor'kiy), no. 2, 1961, 227 - 229)

TEXT: The mass spectrum of monosilane SiH_4 was taken and calculated for the monoisotopic spectrum. The intensities of the ion currents of SiH_4^+, SiH_3^+, SiH_2^+, SiH^+, and Si^+ are in the ratio of 0.4 : 73.5 : 100 : 26.5 : 25.8 (for the MC-4(MS-4) instrument). Using these data as well as data on the monoisotopic mass spectra of CH_4 and GeH_4 as a basis the authors confirm the rule that there is an increase in the probability of dissociation with an increase in mass of the molecule. It is concluded that the law according to which ions obtained when an odd number of hydrogen atoms is lost are

Card 1/2

Mass spectra of monosilane and monogermane   S/081/62/000/006/009/117
                                                    B166/B101

formed in a relatively large quantity during dissociation cannot be extended
to the aforesaid compounds (CH_4, SiH_4, and GeH_4). [Abstracter's note:
Complete translation.]

Card 2/2

20718

18.7530   1145

S/120/61/000/001/061/062
E032/E114

AUTHORS: Kukavadze, G.M., Ivanov, R.N., and Zhuravleva, V.G.

TITLE: Production of Films of High Melting Point Materials
in Vacuum

PERIODICAL: Pribory i tekhnika eksperimenta, 1961, No.1, p 195

TEXT: One of the methods of producing thin films of high
melting point materials is by condensing the vapours of these
materials, produced by electron bombardment of solid specimens in
vacuum. The present authors have used one of the possible versions
of this method to obtain pure deposits of cobalt, iridium and
rhodium. The principle of the method is illustrated in Fig.1.
The metal to be evaporated 1, which is in the form of a rod in
the case of cobalt, a wire in the case of iridium and a strip in
the case of rhodium, is inserted into the ceramic holder 3 and
is heated by the tungsten spiral 2. A voltage of +2.5-3 kV is
applied to the specimen 1 through the lead 4. The spiral is
earthed and carries a current of 4 to 4.5 A. The spiral consists
of 2.5 turns and is made of a wire 0.2 mm in diameter. The
emission current from the spiral is 15-20 mA and the electrons from
Card 1/2

20718

S/120/61/000/001/061/062
E032/E114

Production of Films of High Melting Point Materials in Vacuum

the spiral bombard the metal, raising it to a high temperature.
In the case of cobalt, a drop of the metal is kept by surface
tension forces at the end of the ceramic tube. The cobalt does
not interact with the ceramic and the evaporation occurs from the
surface of the drop. In the case of evaporation of iridium and
rhodium the end of the wire or strip melts, and the resulting
liquid drop serves as the source of vapour. The method has been
used to produce pure cobalt films $0.15-0.4\mu$ thick, having well-
defined magnetic properties when deposited on glass slides
$140 \times 110 \times 30$ mm^3. Iridium and rhodium deposits about 0.1μ thick
have also been obtained on mass-spectrometer ion-source elements.
There are 1 figure and 3 Soviet references.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki
             AN SSSR
             (Institute of Theoretical and Experimental Physics,
Card 2/2   AS USSR)

SUBMITTED: December 29, 1959

KUKAVADZE, G. M.

AM6730

S/120/62/000/004/034/047
E140/E420

AUTHORS: Talyzin, A.N., Gol'din, L.L., Trokhachev, G.V.,
Radkevich, I.A., Mozalevskiy, I.A., Sokolovskiy, V.V.,
Kukavadze, G.M., Belozerova, L.A., Borisov, V.S.,
Bysheva, G.K., Veselov, M.D., Goryachev, Yu.M.

TITLE: Investigation and correction of the magnetic
characteristics of the proton synchrotron C-blocks at
small fields

PERIODICAL: Pribory i tekhnika eksperimenta, no.4, 1962, 184-192

TEXT: Comparative measurements are made on the C-blocks in the
residual field ($\sim$ 35 Oe) the injection field (87 Oe) and the
field at the beginning of the acceleration cycle (117 Oe).   The
iron for the magnet blocks was not pre-selected.   This had no
substantial effect on differences in the dynamic characteristics
of the C-blocks, but the differences in residual field
constituted 4.25% on the average and reached up to 10%.
The mean-square deviation of the magnetic induction was 4.25%,
and 1.4% in the injection field, thus exceeding by far the allowable
tolerances.   The variations were compensated by shunt resistances
Card 1/2

Investigation and correction ...

S/120/62/000/004/034/047
E140/E420

and by changing the order of the blocks.   The present article is
concerned with the measurement of the magnetic field intensity and
its gradient in the residual field, the compensation by
resistances connected across compensation windings, compensation
of C-blocks at injection, with investigation of the dynamic
characteristics.   The equilibrium orbit in the synchrotron has
not yet been studied in detail but it is found that either as
a result of these corrections or the arrangement of the blocks,
the loss of particles is fairly small.   There are 7 figures and
1 table.

ASSOCIATIONS: Institut teoreticheskoy i eksperimental'noy fiziki
               GKAE (Institute of Theoretical and Experimental
               Physics GKAE)
               Nauchno-issledovatel'skiy institut elektrofizicheskoy
               apparatury GKAE (Scientific Research Institute
               for Electrophysical Apparatus GKAE)

SUBMITTED: March 31, 1962

Card 2/2

ACCESSION NR: AP4036526   S/0089/64/016/005/0423/0426

AUTHOR: Memelova, L. Ya.; Kukavadze, G. M.; Ershler, B. V.

TITLE: Mass spectrometric determination of very small amounts of boron in certain materials

SOURCE: Atomnaya energiya, v. 16, no. 5, 1964, 423-426

TOPIC TAGS: boron determination, boron mass spectrometry, isotopic dilution method, analytical chemistry, boron, mass spectrometry

ABSTRACT: The method of isotopic dilution suggested by G. Morrison and R. Rupp (Analyt. Chem. 6, (1957), 892) was used for the determination of small amounts of boron of the order of 10^{-7} gm in glass, quartz, and silicon. The sample was dissolved (or fused) in sodium hydroxide, internal standard was added which consisted of a known amount of an almost pure boron isotope (e.i. B^{10}), borax was then separated electrolitically, and placed on the filament of the mass spectrometer. The purpose of the pure isotope addition is to render harmless the boron losses during the chemical manipulations, as the determination depends only on the ratio of the spectrometric maxima of $Na_2B^{10}O_2'$ to $Na_2B^{11}O_2'$ and the comparison with the

Card 1/3